

REMARKS

Applicants respectfully request reconsideration of the present application. No claims have been amended, canceled, or added herein. Claims 1-24 remain pending and are believed to be in condition for allowance.

Allowable Subject Matter

Applicants would like to thank the Examiner for pointing out allowable subject matter in claims 2, 7, 8, 15, 19, and 20, but for them being in dependent form and based upon the rejections under 35 USC 112.

Rejections based on 35 U.S.C. § 112

Claims 1, 6, 14 and 18 were rejected under 35 U.S.C. 112, second paragraph, as ostensibly being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Applicants respectfully traverse said rejection for the following reasons.

Applicants would first like to point out that said rejection under this section pertains to claimed features of assigning the first and second ancestor nodes, which have been present since Applicants' response filed Dec. 18, 2009. The most recent Applicant amendments that were filed July 8, 2010 are totally unrelated to said rejection under this section. Therefore, the Office is not attempting to move prosecution forward, but instead is delaying prosecution.

In addition, the alleged omitted essential steps of reciting "a location, structure, target or destination for the assigned first and second ancestor nodes" (*see OA*, p.2) are not essential steps, but specific features, which Applicants are not required to claim, especially in independent form. There are multiple possible locations, structures, and/or targets described in Applicants' original specification, and therefore, the Office is unduly requiring restricted limitations upon Applicants' claimed invention. The Office further recommends that Applicants

recite, “the assigning step is directed towards determining the best or most appropriate candidate node to assign or place in the second data structure” (*Id.*). However, independent claim 1 already recites, “assigning the first ancestor node *based on a selection of the potential candidate node most often identified as associated with the leaf nodes in the first set.*” Independent claims 6, 14, and 18 recite a similar assigning feature. This claimed feature already meets the Office’s recommendation of determining the best or most appropriate candidate node. Therefore, Applicants respectfully request withdrawal of said rejection of claims 1, 6, 14, and 18.

Rejections based on 35 U.S.C. § 103

A) Applicable Authority

Title 35 U.S.C. § 103(a) declares, a patent shall not issue when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” The Supreme Court in *Graham v. John Deere* counseled that an obviousness determination is made by identifying: the scope and content of the prior art; the level of ordinary skill in the prior art; the differences between the claimed invention and prior art references; and secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). To support a finding of obviousness, the initial burden is on the Office to apply the framework outlined in *Graham* and to provide some reason—suggestions or motivations—found either in the prior art references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the prior art reference or to combine prior art reference teachings to produce the claimed invention. See *Application of Bergel*, 292 F.2d 955, 956-957 (CCPA 1961).

B) Obviousness Rejections Based on “Recognizing Mathematical Expressions Using Tree Transformations” to Zanibbi et al. (hereinafter, “Zanibbi”), U.S. Patent No. 6,275,791 to Weise (hereinafter, “Weise”), and U.S. Patent No. 5,454,046 to Carman, II (hereinafter, “Carman”)

Claims 1, 3, 5, 14, 16, 18 and 21-24 were rejected under 35 U.S.C. 103(a) as ostensibly being unpatentable over Zanibbi in view of Weise, and in further view of Carman. Applicants respectfully traverse said rejection for the following reasons.

Regarding independent claim 1, the Office conceded that Zanibbi and Weise do not describe or suggest the claimed features of, “providing a mirror data structure to represent a first data structure; supplying input data to a plurality of parser analysis engines via snapshots of the mirror data structure; operating on the snapshots by the plurality of parser analysis engines to form a second data structure,” then relied upon Carman to allegedly describe these features (*see OA*, p.5). However, Carman is directed to a two level handwriting recognition system, as acknowledged by the Office (*Id*), and is silent on all of the above-cited features of independent claim 1. Carman has no mirror data structure, Carman describes just a single parser analysis engine, and Carman has no snapshots used by the parser analysis engine. Therefore, independent claim 1, as well as dependent claims 3 and 5 are allowable over the prior art of record.

Independent claim 14 was rejected on the same grounds as independent claim 1, and the Office further relied upon Zanibbi to ostensibly disclose the use of mirror structures in transforming the data from one form into another (*Id*, p.6). However, Figs. 2 and 6 of Zanibbi, which were cited by the Office, are simply layout constructions illustrating how an equation is broken down. There are no mirror structures in Zanibbi. In addition, independent claim 14 recites, “wherein the one or more parser analysis engines operate concurrently with user input to

the first data structure.” The prior art of record is silent regarding this cited concurrent operation. Therefore, independent claim 14, as well as dependent claim 16 are allowable over the prior art of record.

Independent claim 18 was rejected under similar grounds as independent claim 1, where Carman allegedly describes, “providing a mirror data structure to represent a first data structure; supplying input data to a plurality of parser analysis engines via snapshots of the mirror data structure; operating on the snapshots by the plurality of parser analysis engines to form a second data structure.” Aside from this being incorrect, as pointed out above with reference to independent claim 1, this is not even a recited feature of independent claim 18. Independent claim 18 recites, in part,

one or more mirror data structures representing the first data structure and sent to a corresponding one or more parser analysis engines, wherein the one or more parser analysis engines operate on the one or more mirror data structures concurrently with user input to the first data structure; and a processor programmed and adapted to: (a) transform data in the first data structure to a second data structure via the one or more mirror data structures.

Carman is silent as to one or more mirror data structures, and Carman does not transform data using one or more mirror data structures. Therefore, independent claim 18, as well as dependent claims 21-24 are allowable over the prior art of record. Applicants respectfully request withdrawal of said rejection and allowance of claims 1, 3, 5, 14, 16, 18 and 21-24.

C) Obviousness Rejections Based on “Recognizing Mathematical Expressions Using Tree Transformations” to Zanibbi et al. (hereinafter, “Zanibbi”), U.S. Patent No. 6,275,791 to Weise (hereinafter, “Weise”), U.S. Patent No. 5,454,046 to Carman, II (hereinafter, “Carman”), and U.S. Publication No. 2005/0028091 to Bordawekar, et al. (hereinafter “Bordawekar”)

Claim 4 was rejected under 35 U.S.C. 103(a) as ostensibly being unpatentable over Zannibbi in view of Weise and Carman, and further in view of Bordawekar. Applicants respectfully traverse said rejection for the following reasons.

Claim 4 depends from independent claim 1, which was previously shown to be allowable over the prior art of Zannibbi, Weise, and Carman. Bordawekar is directed to reducing relabeling operations for node insertion operations (*see Bordawekar*, ¶¶ [0055-0058]), and does not compensate for the deficiencies of Zannibbi, Weise, and Carman in describing or suggesting all features of independent claim 1. Therefore, dependent claim 4 is also allowable over the prior art of record, at least for the same reasons. Applicants respectfully request withdrawal of said rejection and allowance of claim 4.

D) Obviousness Rejections Based on “Recognizing Mathematical Expressions Using Tree Transformations” to Zanibbi et al. (hereinafter, “Zanibbi”), U.S. Patent No. 6,275,791 to Weise (hereinafter, “Weise”), and U.S. Publication No. 2003/0130976 to Au (hereinafter “Au”)

Claims 6 and 9-13 were rejected under 35 U.S.C. 103(a) as ostensibly being unpatentable over Zanibbi in view of Weise, and in further view of Au. Applicants respectfully traverse said rejection for the following reasons.

Independent claim 6 was rejected on the same grounds as independent claim 1 (*see OA*, p.9). Applicants' arguments presented above, which describe the shortcomings of Zanibbi and Weise in rejecting independent claim 1, are incorporated herein to also substantiate that Zanibbi and Weise do not describe or suggest the similarly claimed features of independent claim 6. In addition, the Office contends that Zanibbi describes the independent claim 6 feature of, "transforming data from a first data structure to a second data structure via one or more intermediate mirror data structures." The Office cites Zanibbi, where "progression from initial input, through various transformations that "mirror" the initial input data," allegedly describes this claimed feature. However, this statement is a contradiction in and of itself, where transformations of data are not going to mirror the initial input data since they have been changed or "transformed." Figs. 2 and 6 of Zanibbi also do not describe transforming via one or more intermediate mirror data structures, as previously alleged by the Office. In contrast, Applicants' invention describes a mirror data structure (a mirror of the original data structure), whose snapshots can be analyzed by one or more parsers (*see Applicants' original specification*, Fig. 5). This provides continuous analysis by the parsers while new data is being concurrently input (*Id.*, ¶¶ [51-52]). Therefore, independent claim 6, as well as dependent claims 9-13 are allowable over the prior art of record.

E) Obviousness Rejections Based on "Recognizing Mathematical Expressions Using Tree Transformations" to Zanibbi et al. (hereinafter, "Zanibbi"), U.S. Patent No. 6,275,791 to Weise (hereinafter, "Weise"), U.S. Patent No. 5,454,046 to Carman, II (hereinafter, "Carman"), and U.S. Patent No. 6,711,585 to Copperman et al. (hereinafter, "Copperman")

Claim 17 was rejected under 35 U.S.C. 103(a) as ostensibly being unpatentable over Zanibbi in view of Weise and Carman, and further in view of Copperman. Applicants respectfully traverse said rejection for the following reasons.

Claim 17 depends from independent claim 14, which was previously shown to be allowable over the prior art of Zanibbi, Weise, and Carman. Copperman is directed to a method and system to organize and retrieve information using taxonomies (*see Copperman*, Abstract), and does not compensate for the deficiencies of Zanibbi, Weise, and Carman in describing or suggesting all features of independent claim 14. Therefore, dependent claim 17 is also allowable over the prior art of record, at least for the same reasons. Applicants respectfully request withdrawal of said rejection and allowance of claim 17.

CONCLUSION

For at least the reasons stated above, claims 1-24 are now in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 202-783-8400 or nberezny@shb.com (such communication via email is herein expressly granted) – to resolve the same.

It is believed that no fee is due. However, if that belief is in error, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112 with reference to Attorney Docket Number 306582.01/MFCP.149540.

Respectfully submitted,

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